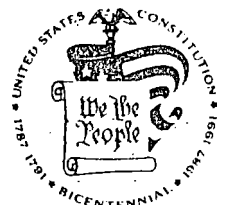




REPLY TO
ATTENTION OF
AFZF-DE-ENV

DEPARTMENT OF THE ARMY
HEADQUARTERS III CORPS AND FORT HOOD
FORT HOOD, TEXAS 76544-50



DEC 26 1989

Acid Disposal Site Study
Training Area 65

1. PURPOSE. The purpose of this study was to determine the extent, if any, of lead contamination and to provide recommendations for cleanup action, if necessary.

2. BACKGROUND.

a. During the information gathering phase of the *Installation Assessment of Fort Hood* (reference 5a) which was prepared by the Chemical System Laboratory for the US Army Toxic and Hazardous Material Agency, it was reported that battery acid was disposed of in pit sometime prior to 1979. This site is located south of Owl Creek Road in Training Area 65 (PK 215624) and is within what is now known as the impact area. Several safety fans from various range now encompass this area.

b. The *Update of the Initial Installation Assessment of Fort Hood, Texas* (reference 5b) was conducted in April 1988. The authors concluded that the dangers associated with the location of this pit (possible dud rounds) could be more hazardous to human health than any lead contamination from the disposal of the battery acid.

c. In a study conducted by the US Army Environmental Hygiene Agency entitled *Evaluation of Solid Waste Management Units* (reference 5d) it was concluded that with the underlying limestone in the area, neutralization should have taken place. Therefore, EP toxic lead could be the only problem at this site. See Appendix B-20, reference 5d.

3. FINDINGS AND DISCUSSION.

a. On August 3, 1989, Miguel Perez and William C. Bodkin of the Fort Hood Environmental Management Office obtain clearance into the impact area training area 65 for the purpose of visiting the site and taking of samples of the soil. The site is located off the road approximately 0.3 miles and shows evendance of being

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fenced (four or five strand barbed wire) at one time with two gates and signs posted on at least two sides of the fence. See Figure 1. Figure 2 is a drawing of the site and Figure 3 shows the sample locations.

b. The site is approximately 110 x 124 feet at the fence line. The actual disposal area was approximately 11 x 24 feet and was about six inches deep. The individual who was in charge of this site had taken steps to ensure that personnel were safe when disposing of the acid. There is a holder in which the container of acid was strapped and a crank handle was turned from a distance of approximately twenty feet behind the container so that the container was tipped and the acid allowed to empty onto the ground within the pit. It appears that only one such pit was used but there is sufficient area for others within the fenced area. Figure 4 thru 8 are photos of the area.

c. Six samples were taken on 9215 using a soil sampling tube and washing the tube with hexane and distilled water between samples. Three samples were taken in the pit and were six to eighteen inches deep. One surface sample was taken from in front of the container holder. One surface sample was taken about twenty feet to the south of the pit where the possibility of a second pit could exist. The soil was so hard that only a surface sample was possible. A control sample was taken to the south of the fence line at a distance of approximately 75 feet. Again the soil was hard and rocky and a surface sample was used.

d. The six samples were submitted to Technology Management, Inc. located in Grand Junction, Colorado for analysis. Each sample was evaluated for the pH of the soil and for EP toxicity for lead. The analysis were completed on August 28, 1989. The methodology used EPA methods 9045, 1310 and 7420. The pH for the six samples ranged from 7.9 to 8.8. All samples showed no detectable EP Toxic lead.

e. It must be noted that since this site was in the impact area the possibility of finding a dud existed. In fact, there is a round that appears to that of an 81mm mortar in the west end of the pit and is a danger to any one who goes into the area.

4. CONCLUSION. The soil pH found in the pits and in the surrounding area are quite normal for the area. Since the test for EP Toxic Lead had no detected level for all samples, it is concluded that there is no imminent hazard present as a result of the activities in prior years. No cleanup action is required at this site.

5. REFERENCES.

- a. Chemical Systems Laboratory (CSL) 1982. *Installation Assessment of Fort Hood, Texas*, Final Report for Period December 1-5, 1980. Prepared for U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Ground, Maryland 21010-5401.
- b. Environmental Science and Engineering Inc, April 1988. *Update of the Installation Assessment of Fort Hood Texas*. Prepared for U.S. Army Toxic and Hazardous Materials Agency, Aberdeen Proving Ground, Maryland 21010-5401.
- c. Title 40, Code of Federal Regulations, revised 1989, Part 264.101, *Corrective Action for Solid Waste Management Units*.
- d. Memorandum, U.S. Army Environmental Hygiene Agency, HSHB-ME-SH, September 14, 1988, subject: Interim Final Report, Hazardous Waste Consultation No. 37-26-0207-88, Evaluation of Solid Waste Management Units, Fort Hood, Texas, 11-15 April 1988.



WILLIAM C. BODKIN
Environmental Engineer
Chief, Environmental Management
Branch

TABLE 1
ACID DISPOSAL SITE STUDY
SAMPLE RESULTS

<u>SAMPLE NO.</u>	<u>TYPE OF SAMPLE</u>	<u>RESULTS</u>
No. 1	6"-12" deep	pH = 8.7 EPT = N.D.
No. 2	12"-18" deep	pH = 7.9 EPT = N.D.
No. 3	6"-12" deep	pH = 8.8 EPT = N.D.
No. 4	6" deep	pH = 8.5 EPT = N.D.
No. 5	Surface sample	pH = 8.8 EPT = N.D.
No. 6	Surface sample	pH = 8.4 EPT = N.D.

Note: EPT stands for EP Toxicity Lead.
N.D. stands for Not Detected.

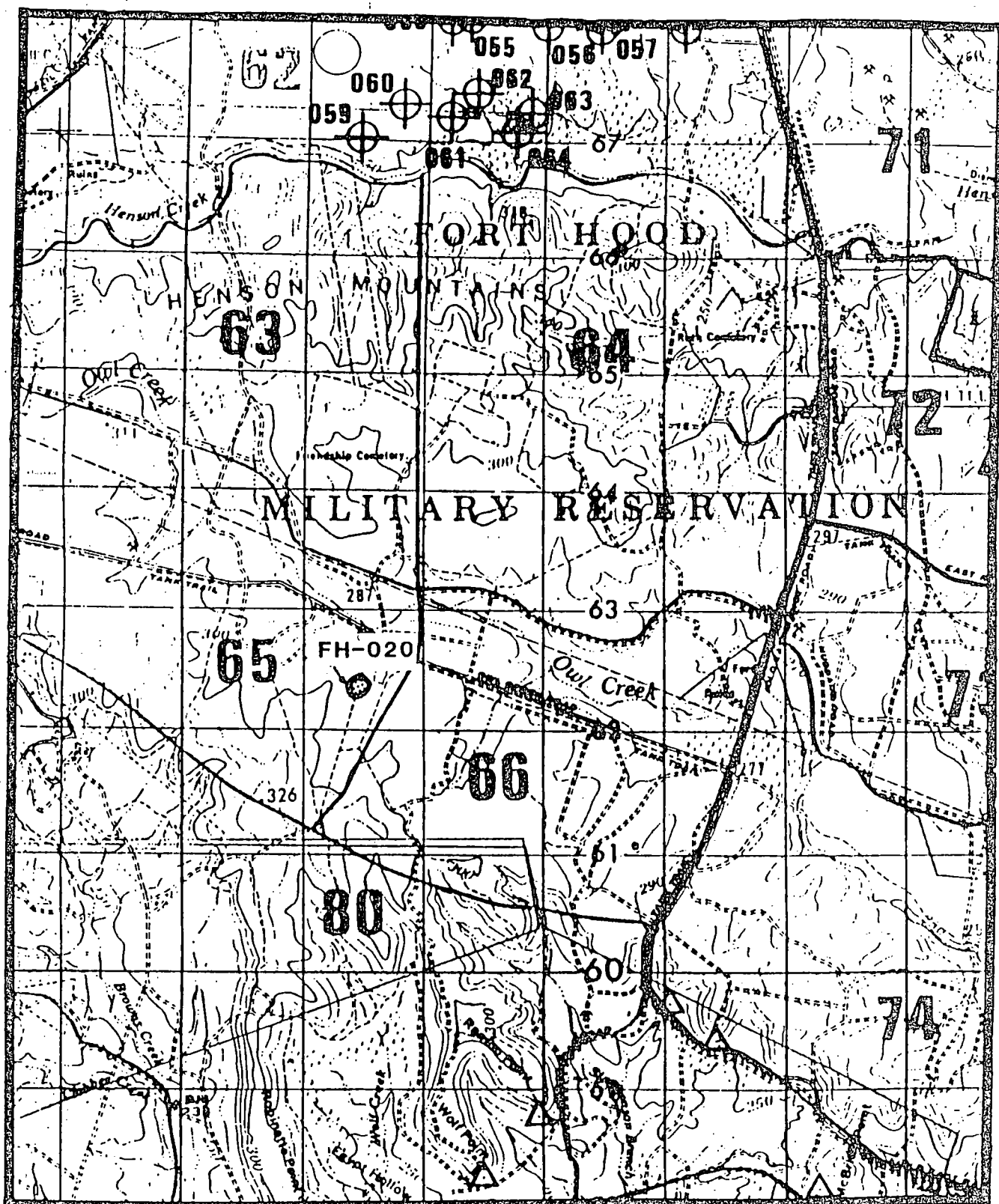


FIGURE I BATTERY ACID PITS

ACID DISPOSAL SITE
TRAINING AREA 65

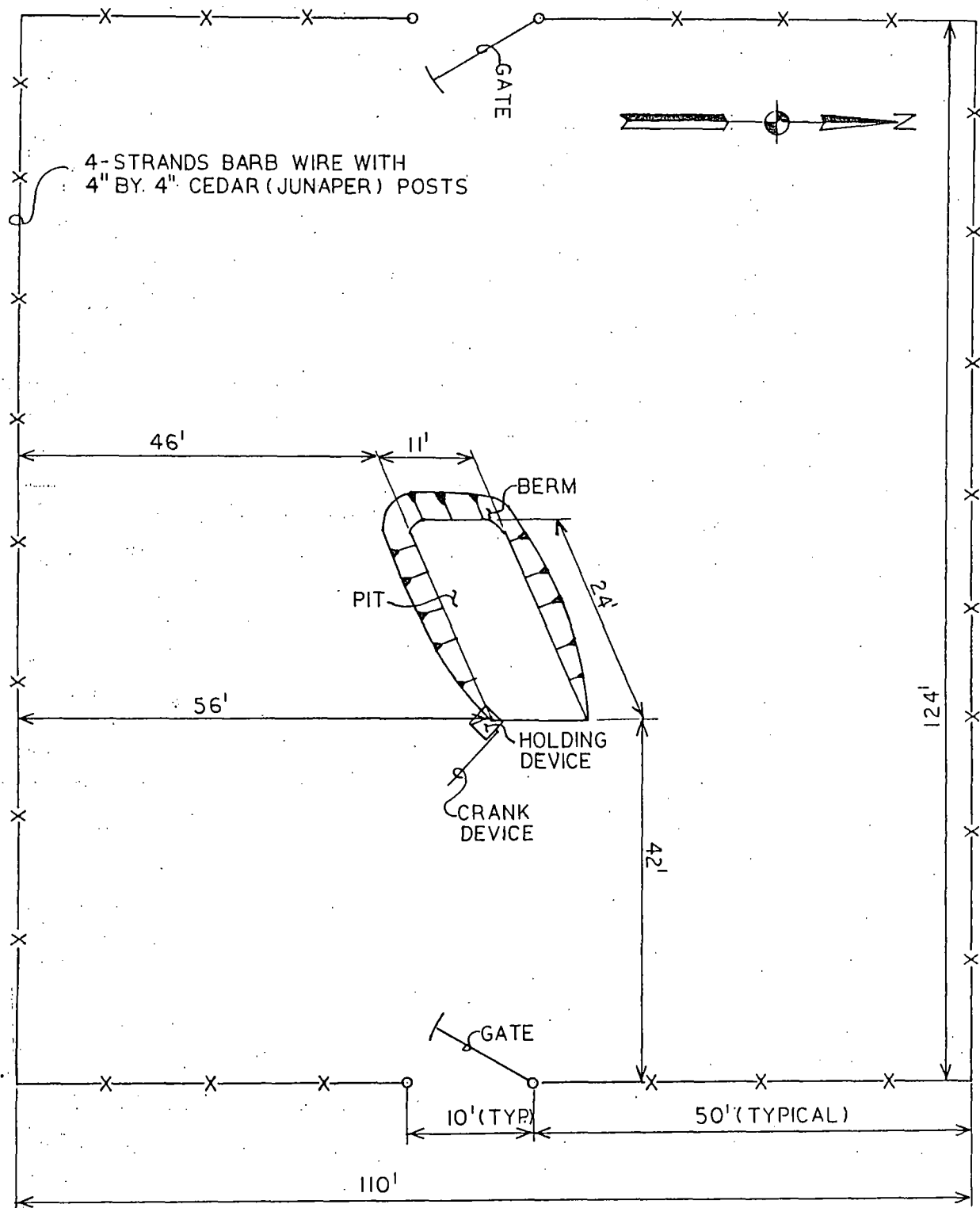


FIGURE 2

ACID DISPOSAL SITE TRAINING AREA 65

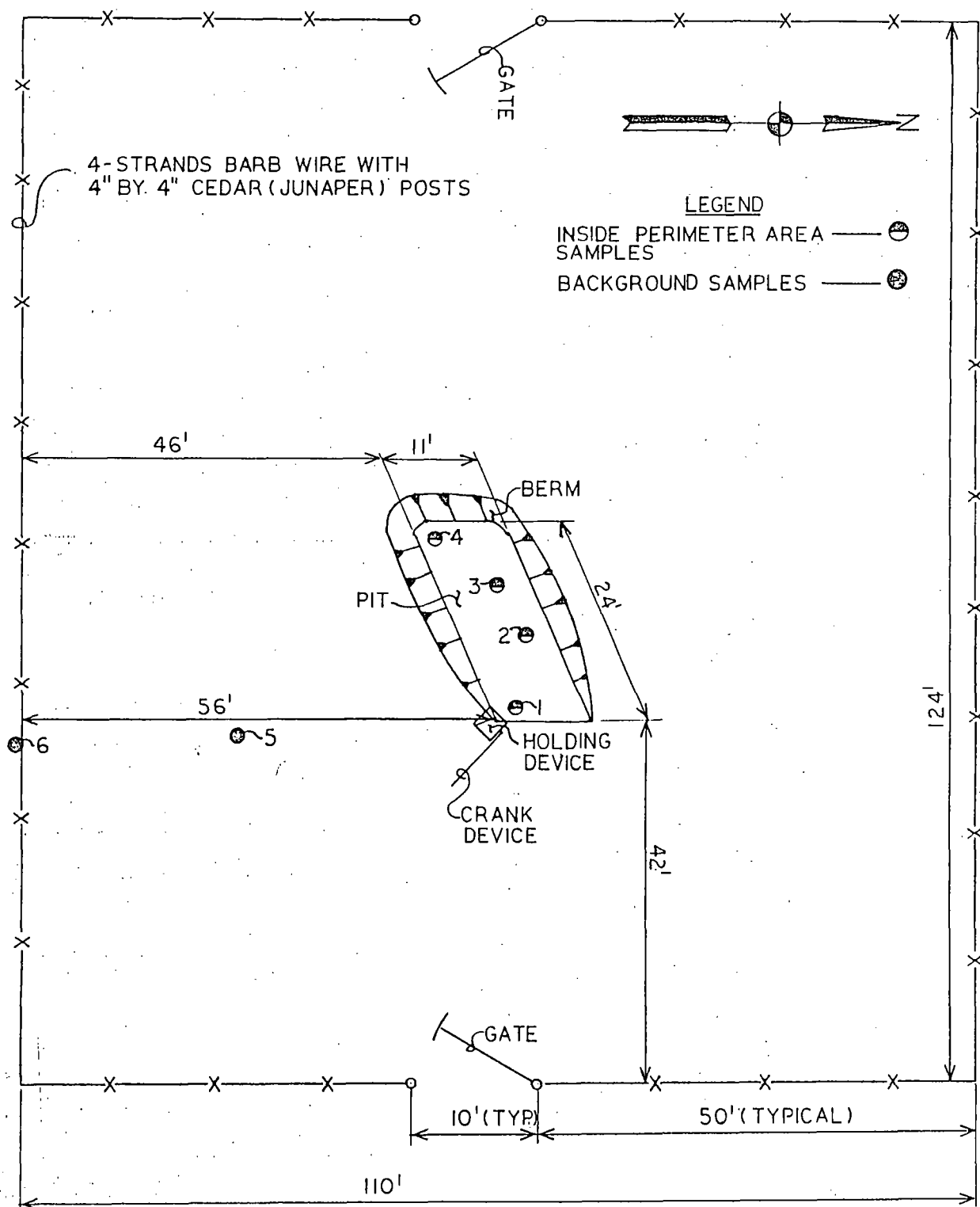
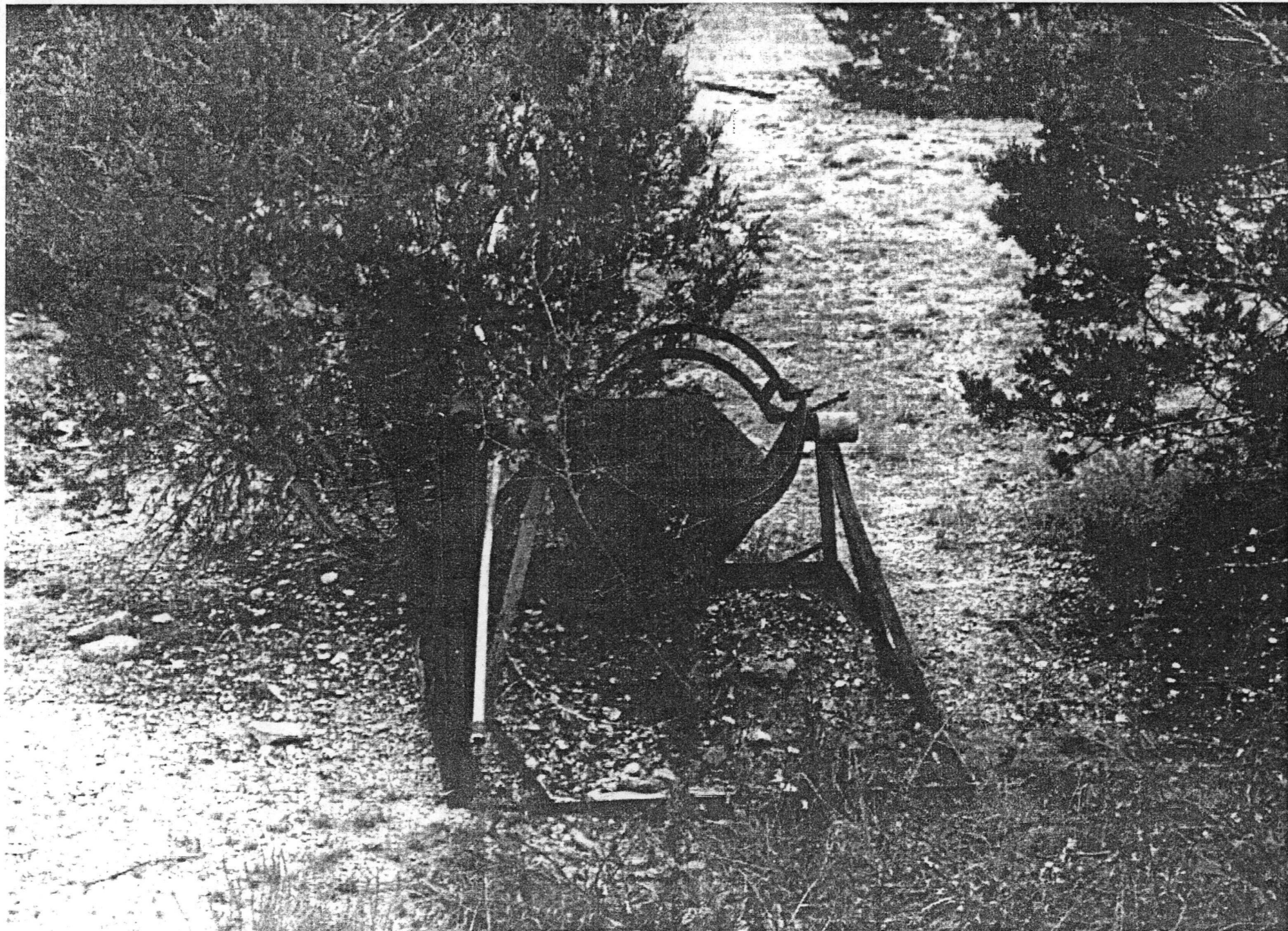


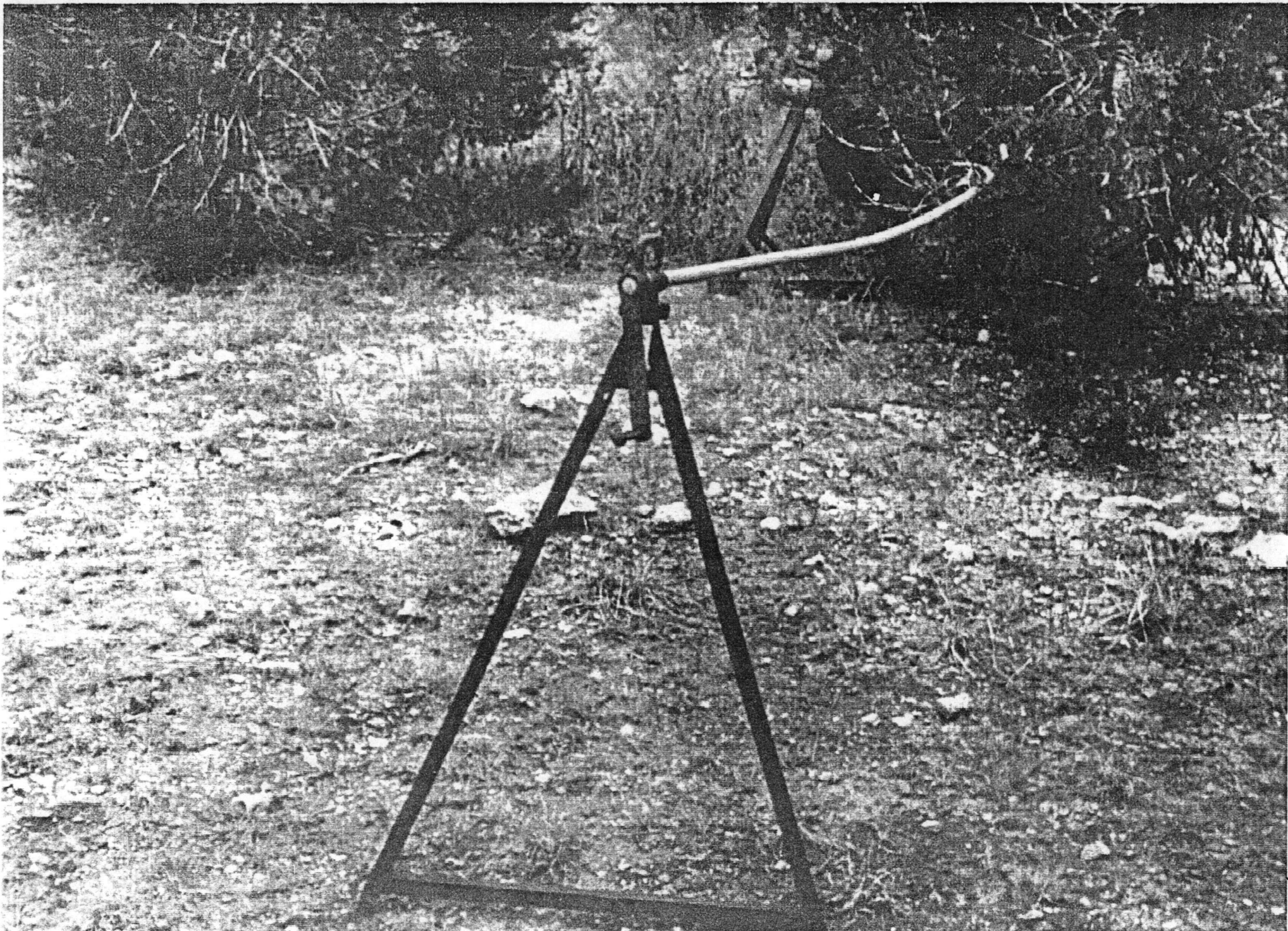
FIGURE 3
SCALE : NOT TO SCALE

FIGURE 4



CONTAINER HOLDING DEVICE

ENCLOSURE 5



CRANKING DEVICE



PIT LOOKIN WEST

WASTE
ACID DISPOSAL
SITE KEEP OUT

SIGN ON WEST SIDE



FENCE LINE NORTHEAST CORNER